

What is claimed is:

1. A range finder comprising:

a package having a lead,

a semiconductor chip attached to the package and having a
5 first light detecting section and a second light detecting
section,

connecting means for electrically connecting the
semiconductor chip to the lead,

an optical casing attached to the package,

10 a first lens and a second lens, and

a lens holder attached to the optical casing and having a
first lens hole and a second lens hole for holding the first
lens and the second lens, said lens holder being formed of a
material having a thermal expansion coefficient substantially
15 equal to a thermal expansion coefficient of the semiconductor
chip.

2. A range finder according to claim 1, wherein said material is
selected from the group consisting of 42 alloy, 50 alloy, amber
20 alloy, super amber alloy, Kovar, crystallized glass, heat
resistant glass, and ceramic containing boron.

3. A range finder according to claim 1, further comprising a
first adhesive layer for bonding the optical casing and the lens
25 holder, said first adhesive layer having elasticity.

4. A range finder according to claim 1, further comprising a
second adhesive layer for bonding the package and the
semiconductor chip, said second adhesive layer having elasticity.

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5. A range finder according to claim 1, wherein said first and second lenses are formed of glass and fixed to the lens holder by adhesion to be located in the first and second lens holes.

5 6. A range finder according to claim 1, wherein said lens holder has two holes on a bisector perpendicular to a line connecting centers of the first and second lens holes, and said optical casing has two bosses for inserting into the two holes to attach the optical casing to the lens holder.

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7. A range finder according to claim 6, wherein one of said two holes is a circular hole and the other of said two holes is a long hole.

15 8. A range finder according to claim 1, wherein each of said first and second lenses is formed of a transparent resin and has a reference boss and an absorbing boss, and said lens holder has circular reference holes and long absorbing holes on a line connecting centers of the first and second lens holes, each of
20 said reference bosses being inserted into one circular reference hole and fixed by an elastic adhesive layer while one absorbing boss is moveably inserted into one long absorbing hole to attach each of the first and second lens to each of the first and second lens holes.

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9. A range finder according to claim 8, wherein said lens holder has two holes on a bisector perpendicular to a line connecting the circular reference holes, and said optical casing has two bosses for inserting into the two holes to attach the optical
30 casing to the lens holder.

10. A range finder according to claim 9, wherein one of the circular reference holes is formed adjacent to the first lens hole, and the other of the circular reference holes is formed adjacent to the second lens hole.

11. A range finder according to claim 10, wherein one of said two holes is a circular hole and the other of said two holes is a long hole.

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12. A range finder according to claim 8, wherein said lens holder has a slit adjacent to the circular reference holes for accommodating an extra portion of the elastic adhesive layer.